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REMARKS

The present response is intended to be fully responsive to all points of objection and/or rejection raised by the Examiner and is believed to place the application in condition for allowance. Favorable reconsideration and allowance of the application is respectfully requested.

Applicants assert that the present invention is new, non-obvious and useful. Prompt consideration and allowance of the claims is respectfully requested.

Status of Claims

Claims 1-31 are pending in the application. Claims 1-9, 11-17, 19-28, 30 and 31 have been rejected. Claims 10, 18 and 29 have been objected to.

Claims 1, 3, 4 and 10 have been amended herein. Applicants respectfully assert that the amendments to the claims add no new matter.

Claim 10 has been voluntarily amended for clarification only. This amendment does not narrow the scope of the claim, nor is it being made for reasons of patentability.

Claims 2 and 31 have been canceled without prejudice or disclaimer. In making this cancellation without prejudice, Applicants reserve all rights in these claims to file divisional and/or continuation patent applications.

Allowable Subject Matter

In the Office Action, the Examiner stated that claims 10, 18 and 29 were objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Applicants reserve the right to rewrite claims 10, 18 and 29 in independent form including all of the limitations of the base claim and any intervening claims, at a later time.

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CLAIM REJECTIONS

35 U.S.C. § 112 Rejections

In the Office Action, the Examiner rejected claim 31 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention, as the claim is an omnibus claim.

Claim 31 has been canceled herein without prejudice and disclaimer, such that this rejection is now moot.

35 U.S.C. § 102 Rejections

In the Office Action, the Examiner rejected claims 1-4, 6, 17, 28 and 31 under 35 U.S.C. § 102(b), as being anticipated by US 6,359,835 (Gayl). Applicants respectfully traverse this rejection in view of the remarks that follow.

Gayl discloses a device that comprises an audio system arranged to produce a sound wave directed to a selected location and a video system arranged to produce a light beam that may be directed to the selected location. The audio system includes a frame and an array of sound generators mounted in the frame. The frame is formed as a tube with a longitudinal axis, an open end and a closed end with the sound wave being emitted generally parallel to the longitudinal axis of the tube (as described in the abstract of Gayl).

Gayl describes generation of a "directional acoustic beam by means of a linear arrangement of piezoelectric transducers, which are phased to produce directionality and power in the forward direction" (col. 1, lines 42-46). "The operation of the linear array 17 of sound sources 16 is based on the phasing, spacing, and/or frequency mixing of this array. This is to produce acoustic reinforcement forward, and partial cancellation sideways. This is illustrated mathematically by three simple point source piezoelectric transducers, a, b, c, operating in open space, and operating at frequencies f_a , f_b and f_c , which can be identical or different, with phases ϕ_a , ϕ_b and ϕ_c , respectively" (col. 3, lines 18-34).

The steering of Gayl's device is purely manual, so that in order to direct the sound wave at a specific target the carrier points the "sound cannon" frame towards that target.

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Gayl does not describe or suggests "phased array arrangement, where each channel is fed with wave parameters comprising amplitude and phase according to predefined signal programs, for steering an acoustic beam which is the resultant of the signal programs by the array of acoustic transmitters", nor does Gayl describe or suggest "a control unit, for the operation of the system, by controlling the signal generator, the multi-channel signal processor, and the phased array arrangement", as claimed in amended independent claim 1 of the present application.

For a reference to anticipate a claim, the reference must teach all elements of the claim. Therefore, US 6,539,835 cannot anticipate amended independent claim 1. Accordingly, amended claim 1 is allowable.

Claims 2-4, 6, 17 and 28 are each dependent, directly or indirectly, on amended independent claim 1, and are thus dependent on an allowable claim. Therefore, claims 2-4, 6, 17 and 28 are allowable, too.

In the Office Action, the Examiner rejected claims 1, 4, 6, 7, 12, 20, 21, 28 and 31 under 35 U.S.C. § 102(b), as being anticipated by US 6,052,336 (Lowrey, III). Applicants respectfully traverse this rejection in view of the remarks that follow.

US 6052336 (Lowrey III) discloses an ultrasonic sound source that broadcasts an ultrasonic signal which is amplitude and/or frequency modulated with an information input signal originating from an information input source. The modulated signal, which may be amplified, is then broadcast via a projector unit, whereupon an individual or group of individuals located in the broadcast region detect the audible sound. The projector unit includes two beams. Lowrey does not describe or suggest "phased array arrangement, where each channel is fed with wave parameters comprising amplitude and phase according to predefined signal programs, for steering an acoustic beam which is the resultant of the signal programs by the array of acoustic transmitters", as claimed in amended independent claim 1 of the present application. Lowrey also does not describe or teach an array of acoustic transmitters, only a two-projector system, nor does he describe or suggest "a control unit, for the operation of the system, by controlling the signal generator, the multi-channel signal processor, and the phased array arrangement", as claimed in amended independent claim 1.

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For a reference to anticipate a claim, the reference must teach all elements of the claim. Therefore, US 6,052,336 cannot anticipate amended independent claim 1. Accordingly, amended claim 1 is allowable.

Claims 4, 6, 7, 12, 20, 21, 28 are each dependent, directly or indirectly, on amended independent claim 1, and are thus dependent on an allowable claim. Therefore, claims 4, 6, 7, 12, 20, 21, 28 are allowable, too.

In the Office Action, the Examiner rejected claims 1, 4, 8 and 31 under 35 U.S.C. § 102(b), as being anticipated by US 5,636,180 (Grothaus et al.). Applicants respectfully traverse this rejection in view of the remarks that follow.

US 5,636,180 (Grothaus et al.) discloses acoustical shock wave generator. The shock waves are generated by electrical sparks.

Grothaus does not describe or suggest "phased array arrangement, where each channel is fed with wave parameters comprising amplitude and phase according to predefined signal programs, for steering an acoustic beam which is the resultant of the signal programs by the array of acoustic transmitters", nor does Grothaus describe or suggest "a control unit, for the operation of the system, by controlling the signal generator, the multi-channel signal processor, and the phased array arrangement", as claimed in amended independent claim 1.

For a reference to anticipate a claim, the reference must teach all elements of the claim. Therefore, US 5,636,180 cannot anticipate amended independent claim 1. Accordingly, amended claim 1 is allowable.

Claims 4 and 8 are each dependent, directly or indirectly, on amended independent claim 1, and are thus dependent on an allowable claim. Therefore, claims 4 and 8 are allowable, too.

In the Office Action, the Examiner rejected claims 1, 4, 6, 7, 11, 13-16, 22, 28, 30 and 31 under 35 U.S.C. § 102(b), as being anticipated by US 5,610,876 (Jeffers). Applicants respectfully traverse this rejection in view of the remarks that follow.

Jeffers discloses an acoustic system and a method for repelling marine mammals from a region of water is disclosed. A plurality of acoustic transducers (10,12,14,16) are spatially dispersed beneath the surface of the water. The transducers (10,12,14,16) in sequence output

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high frequency acoustic signals into the water. The power of the acoustic signals starts at a low level and is gradually or incrementally increased to a high level which produces a signal beyond the threshold of pain of the mammals to be repelled. The mammals are therefore gradually repelled from the area without suffering permanent hearing loss.

Jeffers does is not concerned at all with the phase of his acoustic sources.

Jeffers does not describe or suggest "phased array arrangement, where each channel is fed with wave parameters comprising amplitude and phase according to predefined signal programs, for steering an acoustic beam which is the resultant of the signal programs by the array of acoustic transmitters", nor does he describe or suggest "a control unit, for the operation of the system, by controlling the signal generator, the multi-channel signal processor, and the phased array arrangement", as claimed in amended independent claim 1.

For a reference to anticipate a claim, the reference must teach all elements of the claim. Therefore, Jeffers cannot anticipate amended independent claim 1. Accordingly, amended claim 1 is allowable.

Claims 4, 6, 7, 11, 13-16, 22, 28, 30 and 31 are each dependent, directly or indirectly, on amended independent claim 1, and are thus dependent on an allowable claim. Therefore, claims 2-7, 9, 12, 23-28 and 30 are allowable, too.

In the Office Action, the Examiner rejected claims 1-7, 9, 12, 23-28, 30 and 31 under 35 U.S.C. § 102(b), as being anticipated by US 4,349,898 (Drewes et al.). Applicants respectfully traverse this rejection in view of the remarks that follow.

US 4,349,898 (Drewes et al.) discloses a system for transmitting a parametrically pumped sonic signal through a transmission medium to a remote location. The preferred system, which is (according to Drewes, as described in the abstract) particularly intended for use as a sonic weapon, comprises a sound source; means for separating the sound into a plurality of discrete frequency components including a fundamental component and at least one additional component, each additional component having a frequency twice that of the next lowest frequency component; means for adjusting the phase difference between each frequency component and the next lowest frequency component to substantially 90°; means for colinearly focusing the components on the remote location; and means for rendering the transmission medium nonlinear between the focusing means and the remote location.

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In Drewes et al., the phase differences between each frequency component are provided for separating the sound into a plurality of discrete frequency components, and not for steering. Furthermore, the phase differences are applied on an acoustic signal that is generated by a single acoustic generator.

Drewes does not describe or suggest "phased array arrangement, where each channel is fed with wave parameters comprising amplitude and phase according to predefined signal programs, for steering an acoustic beam which is the resultant of the signal programs by the array of acoustic transmitters", nor does he describe or suggest "a control unit, for the operation of the system, by controlling the signal generator, the multi-channel signal processor, and the phased array arrangement", as claimed in amended independent claim 1.

For a reference to anticipate a claim, the reference must teach all elements of the claim. Therefore, US 5,636,180 cannot anticipate amended independent claim 1. Accordingly, amended claim 1 is allowable.

Claims 2-7, 9, 12, 23-28 and 30 are each dependent, directly or indirectly, on amended independent claim 1, and are thus dependent on an allowable claim. Therefore, claims 2-7, 9, 12, 23-28 and 30 are allowable, too.

In the Office Action, the Examiner rejected claims 1, 4, 19 and 31 under 35 U.S.C. § 102(b), as being anticipated by US 5,969,593 (Will). Applicants respectfully traverse this rejection in view of the remarks that follow.

US 5,969,593 (Will) describes a warning system in combination with a vehicle in which ultrasonic sound and ultraviolet is beamed in advance of the moving vehicle on a thoroughfare so that said sound and light may be heard and seen by an animal ahead of the moving vehicle to induce the animal to leave the road before it is struck by the vehicle.

Will describes a fixed arrangement of transducers that emit gun-shot sound and UV light bulbs that are incorporated in the license plate holder, which is firmly attached to the vehicle.

Will does not describe or suggest "phased array arrangement, where each channel is fed with wave parameters comprising amplitude and phase according to predefined signal programs, for steering an acoustic beam which is the resultant of the signal programs by the array of acoustic transmitters", nor does he describe or suggest "a control unit, for the

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operation of the system, by controlling the signal generator, the multi-channel signal processor, and the phased array arrangement", as claimed in amended independent claim 1.

For a reference to anticipate a claim, the reference must teach all elements of the claim. Therefore, US 5,969,593 cannot anticipate amended independent claim 1. Accordingly, amended claim 1 is allowable.

Claims 4 and 19 are each dependent, directly or indirectly, on amended independent claim 1, and are thus dependent on an allowable claim. Therefore, claims 4 and 19 are allowable, too.

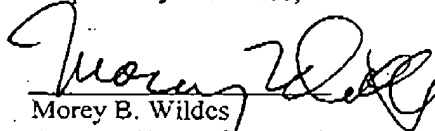
Applicants respectfully request reconsideration and withdrawal of the rejections of claims 1-9, 11-17, 19-28 and 30.

In view of the foregoing amendments and remarks, the pending claims are deemed to be allowable. Their favorable reconsideration and allowance is respectfully requested.

Should the Examiner have any question or comment as to the form, content or entry of this Amendment, the Examiner is requested to contact the undersigned at the telephone number below. Similarly, if there are any further issues yet to be resolved to advance the prosecution of this application to issue, the Examiner is requested to telephone the undersigned counsel.

Please charge any fees associated with this paper to deposit account No. 50-3355.

Respectfully submitted,


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